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SCIENCE

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MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE ACTION OF VITAL STAINS BELONGING TO THE BENZIDINE GROUP¹

THE brilliant advances in our knowledge of the chemistry of aniline dyes, brought about naturally by the enormous commercial importance which the dyes possess, has been brought to bear, and will in the future be brought to bear, we believe, in the solution of some important problems in biology. The dyes possess peculiar advantages; especially is this true in the case of those of them which undergo little or no chemical transformation when injected into the living body. To this class of dyes, as we hope to show later, belong the benzidine or substantivative dyes. It might be inquired immediately whether vastly more important results could not be secured from the study of dyes which, on the contrary, are known to suffer definite chemical changes within the body, for it might be supposed, for instance, that valuable light could be thrown on oxidative or reductive processes peculiar to certain cells or tissues. It was, of course, with motives not far removed from these, that Ehrlich first seriously attempted the use of dyes to solve the problem of the relation between pharmacological action and chemical constitution in his classical essay on this thesis in 1902. When we insist, however,

¹ Read at the session of the National Academy of Sciences, Baltimore, November 18, 1913. From the Anatomical Laboratory, Johns Hopkins University and the Kgl. chirurgisches Institut, Breslau. The study is a preliminary report of observations which will be presented in full in the Memoirs of the Rockefeller Institute for Medical Research and which were rendered possible by grants from the Rockefeller Institute and the Robert Koch Stiftung, Berlin.